

AF

TFW  
2195

<b>INFORMATION DISCLOSURE TRANSMITTAL</b>		Docket No. SMY 041.01
Applicant:	Nir N. Shavit, Steven K. Heller and Christine H. Flood	
Serial No:	09/893,256	
Filed:	June 27, 2001	
For:	LOAD-BALANCING QUEUES EMPLOYING LIFO/FIFO WORK STEALING	
Examiner:	C. Truong	
Art Unit:	2195	

## CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 8, 2006.

  
Jan L. Mellen

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In keeping with the duty of candor and good faith owed to the Patent and Trademark Office, Applicant wishes to bring information to the attention of the Examiner. The filing of this statement shall not be construed as a representation that a search has been made or as an admission that this information is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

**Enclosures**

- ☒ A form PTO-1449 listing this information is attached
- ☒ Copies of documents cited, other than U.S. patents and published U.S. patent applications, are enclosed.
- ☐ Copies of the cited documents are not enclosed because

**Fees**

- ☐ This statement is filed before the later of: (1) three months of (i) the filing of a national application or (ii) the entry date for the national stage of an international application; (2) the mailing date of a first office action on the merits; or (3) the mailing date of a first office action on the merits following the filing of a Request for Continued Examination. No fee is due.
- ☒ This statement is filed before the mailing date of a final office action, a notice of allowance or an action that otherwise closes prosecution, and
- ☒ The submission fee of \$180.00 under 37 CFR §1.17(p) is enclosed, or
- ☐ The following certification is made:
- ☐ each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign

03/13/2006 AKELECH1 00000053 09893256

01 FC:1806

180.00 0P

application not more than three months prior to the filing of this statement,  
or

- ☐ no item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in this statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

- ☐ This statement is filed on or before payment of the issue fee, the submission fee of \$180.00 under 37 CFR §1.17(p) is enclosed, and

- ☐ each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement, or

- ☐ no item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in this statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

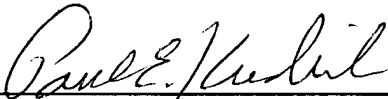
**Payment**

- ☒ A check in the amount of the submission fee is enclosed.  
☐ Charge Account No. 02-3038 in the amount of the submission fee. A duplicate of this transmittal sheet is attached.

**Authorization to Charge Additional Fees**

- ☒ The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §1.16 and §1.17 required by the attached paper and during the entire pendency of this application to Account No. 02-3038.

Respectfully submitted,



Date: 3/8/06

Paul E. Kudirka, Esq. Reg. No. 26,931  
KUDIRKA & JOBSE, LLP  
Customer Number 045774  
Tel: (617) 367-4600 Fax: (617) 367-4656

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT Sheet 1 of 6**

Docket No. SMY 041.01-

Applicant: Nir N. Shavit, Steven K. Heller and Christine H. Flood  
Serial No: 09/893,256  
Filed: June 27, 2001  
For: LOAD-BALANCING QUEUES EMPLOYING LIFO/FIFO WORK STEALING  
Examiner: C. Truong  
Art Unit: 2195

**U.S. PATENT DOCUMENTS**

Exam Inits	Cite No.	Patent Number	Kind Code	Patentee or Applicant Name	Issue Date
		20010000821	A1	KOLODNER, ET AL.	05/03/01
		20010047361	A1	MARTIN, ET AL.	11/29/01
		20010049726	A1	COMEAU, ET AL.	12/06/01
		20020052926	A1	BUSH, ET AL.	05/02/02
		20020073103	A1	BOTTOMLEY, ET AL.	06/13/02
		20020095453	A1	STEENSGAARD	07/18/02
		20030005025	A1	SHAVIT, ET AL.	01/02/03
		20030005029	A1	SHAVIT, ET AL.	01/02/03
		20040088702	A1	GARTHWAITE, ET AL.	05/06/04
		4,584,640	B1	MACGREGOR, ET AL.	4/22/86
		4,775,932	B1	OXLEY, ET AL.	10/4/88
		4,912,629	B1	SHULER, JR.	05/27/90
		4,989,134	B1	SHAW	01/29/91
		5,088,036	B1	ELLIS, ET AL.	02/11/92
		5,241,673	B1	SCHELVIS	09/31/93
		5,274,804	B1	JACKSON, ET AL.	12/28/93
		5,355,483	B1	SERLET	10/11/94
		5,446,901	B1	OWICKI, ET AL.	08/29/95
		5,577,246	B1	PRIDDY, ET AL.	11/19/96
		5,692,185	B1	NILSEN, ET AL.	11/25/97

**FOREIGN PATENT DOCUMENTS**

Exam Inits	Cite No.	Cy	Number	Kind Code	Patentee or Applicant Name	Publication Date	T
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Examiner  
SignatureDate  
Considered

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT Sheet 2 of 6**

Docket No. SMY 041.01

Applicant: Nir N. Shavit, Steven K. Heller and Christine H. Flood  
Serial No: 09/893,256  
Filed: June 27, 2001  
For: LOAD-BALANCING QUEUES EMPLOYING LIFO/FIFO WORK STEALING  
Examiner: C. Truong  
Art Unit: 2195

**U.S. PATENT DOCUMENTS**

Exam Inits	Cite No.	Patent Number	Kind Code	Patentee or Applicant Name	Issue Date
		5,692,193	B1	JAGANNATHAN, ET AL.	11/25/97
		5,893,121	B1	EBRAHIM, ET AL.	4/06/99
		5,930,807	B1	EBRAHIM, ET AL.	07/27/99
		5,950,205	B1	AVIANI, JR.	09/07/99
		6,047,295	B1	ENDICOTT, ET AL.	04/04/00
		6,052,699	B1	HUELSBERGEN, ET AL.	04/18/00
		6,081,665	B1	NILSON, ET AL.	06/22/00
		6,192,517	B1	AGESEN, ET AL.	02/20/01
		6,226,653	B1	ALPERN, ET AL.	05/01/01
		6,240,422	B1	ATKINS, ET AL.	5/29/01
		6,249,793	B1	PRINTEZIS, ET AL.	06/19/01
		6,253,215	B1	AGESEN, ET AL.	06/26/01
		6,286,016	B1	HELLER, ET AL.	9/04/01
		6,289,360	B1	KOLODNER, ET AL.	09/11/01
		6,304,949	B1	HOULDSWORTH	10/16/01
		6,314,436	B1	HOULDSWORTH	11/06/01
		6,314,478	B1	ETCHEVERRY	11/06/2001
		6,317,756	B1	KOLODNER, ET AL.	11/13/01
		6,321,240	B1	CHILIMBI, ET AL.	11/27/01
		6,338,073	B1	HOULDSWORTH, ET AL.	01/08/02

**FOREIGN PATENT DOCUMENTS**

Exam Inits	Cite No.	Cy	Number	Kind Code	Patentee or Applicant Name	Publication Date	T
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Examiner  
SignatureDate  
Considered



**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT Sheet 3 of 6**

Docket No. SMY 041.01

Applicant: Nir N. Shavit, Steven K. Heller and Christine H. Flood  
Serial No: 09/893,256  
Filed: June 27, 2001  
For: LOAD-BALANCING QUEUES EMPLOYING LIFO/FIFO WORK STEALING  
Examiner: C. Truong  
Art Unit: 2195

**U.S. PATENT DOCUMENTS**

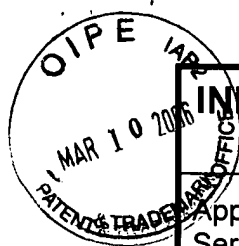
Exam Inits	Cite No.	Patent Number	Kind Code	Patentee or Applicant Name	Issue Date
		6,341,293	B1	HENNESSEY	01/22/02
		6,374,339	B1	IIVONEN	04/16/002
		6,377,984	B1	NAJORK, ET AL.	04/23/02
		6,381,735	B1	HUNT	04/30/02
		6,411,964	B1	IYER, ET AL.	06/25/2002
		6,415,302	B1	GARTHWAITE, ET AL.	07/02/02
		6,427,154	B1	KOLODNER, ET AL.	07/30/02
		6,434,575	B1	BERRY, ET AL.	08/13/02
		6,480,862	B1	GALL	11/12/02
		6,493,730	B1	LEWIS, ET AL.	12/10/02
		6,526,422	B1	FLOOD, ET AL.	02/25/03
		6,542,911	B2	CHAKRABORTY, ET AL.	04/01/03
		6,560,619	B1	FLOOD, ET AL.	05/06/03
		6,571,260	B1	MORRIS	05/27/03
		6,651,101	B1	GAI, ET AL.	11/18/03
		6,671,707	B1	HUDSON, ET AL.	12/30/03
		6,763,452	B1	HOHENSEE, ET AL.	07/13/04

**FOREIGN PATENT DOCUMENTS**

Exam Inits	Cite No.	Cy	Number	Kind Code	Patentee or Applicant Name	Publication Date	T
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Examiner  
Signature

Date  
Considered

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT Sheet 4 of 6**

Docket No. SMY 041.01

Applicant: Nir N. Shavit, Steven K. Heller and Christine H. Flood  
Serial No: 09/893,256  
Filed: June 27, 2001  
For: LOAD-BALANCING QUEUES EMPLOYING LIFO/FIFO WORK STEALING  
Examiner: C. Truong  
Art Unit: 2195

**OTHER PRIOR ART – NON PATENT LITERATURE AND DOCUMENTS**

Exam Inits	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the articles (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
		ADITY, ET AL., "Garbage Collection for Strongly-Typed Languages using Run-Time Reconstruction", ACM, 1994, 16-20	<input type="checkbox"/>
		APPEL, "Simple Generational Garbage Collection and Fast Allocation", Software Practice and Experience, 19(2), 1989, 171-183	<input type="checkbox"/>
		ARORA, ET AL., "Thread Scheduling for Multiprogrammed Multiprocessors", Dept. of Computer Science, Uni. of Texas, 1998, Austin	<input type="checkbox"/>
		BAKER, "List Processing in Real Time on a Serial Computer", Communications of the ACM 21, April 1978, 280-294	<input type="checkbox"/>
		BIBOLET, ET AL., "Asynchronous Service Routine Invocation with Safely Serialized Work Queue", IBM Tech. Disclosure Bulletin, Vol. 25, No. 8, January 1983, IBM Corp.	<input type="checkbox"/>
		BLELLOCH, ET AL., "On Bounding Time and Space for Multiprocessor Garbage Collection", Computer Science Department, Carnegie Mellon University, Date Unknown	<input type="checkbox"/>
		BLUMOFFE, "Scheduling Multithreaded Computations by Work Stealing", University of Texas, 1998, Austin	<input type="checkbox"/>
		BOEHM, "Simple Garbage Collector-Safety", ACM, May 1996, 89-98	<input type="checkbox"/>
		CHASE, ET AL., "Analysis of Pointers and Structures", Proceedings of the ACM SIGPLAN '90 Conference on Programming Language Design and Implementation, June 20-22, 1990, 296-310, White Plains, NY	<input type="checkbox"/>
		COHEN, "Garbage Collection of Linked Data Structures", ACM, Computing Surveys, Vol. 13, No. 3, September 1981, 341-367	<input type="checkbox"/>
		COURTEMANCHE, "MultiTrash, a Parallel Garbage Collector for MultiScheme", Thesis for MIT, 1986	<input type="checkbox"/>
		COURTS, "Improving Locality of Reference in a Garbage-Collecting Memory Management System", Communications of the ACM, Vol. 31, No. 9, September 1988, 1128-1138	<input type="checkbox"/>

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT Sheet 5 of 6**

Docket No. SMY 041.01

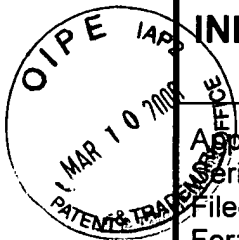
Applicant: Nir N. Shavit, Steven K. Heller and Christine H. Flood  
 Serial No: 09/893,256  
 Filed: June 27, 2001  
 Inventor: LOAD-BALANCING QUEUES EMPLOYING LIFO/FIFO WORK STEALING  
 Examiner: C. Truong  
 Art Unit: 2195

## **OTHER PRIOR ART – NON PATENT LITERATURE AND DOCUMENTS**

Exam Inits	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the articles (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
		CRAIG, ET AL., "nanoPortean: Scalable System Software for a Gigabit Active Router", IEEE INFOCOM 2001, 2001, 51-59	<input type="checkbox"/>
		DEMERS, E T AL., "Combining Generational and Conservative Garbage Collection: Framework and Implementations", In Conf. Rec. of 17th Annual ACM Symposium, January 1990, 261-269, ACM Notices	<input type="checkbox"/>
		DOLIGEZ, ET AL., "Portable Unobtrusive Garbage Collection for Multiprocessor Systems", Association for Computing Machinery, 1994	<input type="checkbox"/>
		ENDO, T., ET AL., "A Scalable Mark-Sweep Garbage Collector on Large-Scale Shared-Memory Machines", Proceedings of the 1997 ACM/IEEE Supercomputing 97 Conference, Nov. 15-21, 1997, San Jose, CA	<input type="checkbox"/>
		HALSTEAD, "Implementation of Multilisp: Lisp on a Multiprocessor", MIT, Lab. for Computer Science, 1984, Cambridge	<input type="checkbox"/>
		HICKEY, ET AL., "Performance Analysis of On-the-Fly Garbage Collection", Communication of the ACM, Vol. 27, No. 11, November 1984, 1143-1154	<input type="checkbox"/>
		HOLZLE, URS, "A Fast Write Barrier for Generational Garbage Collectors", Workshop on Garbage Collection in Object Oriented Systems, October 1993	<input type="checkbox"/>
		HUDAK, ET AL., "Garbage Collection and Task Deletion in Distributed Applicative Processing Systems", ACM, 1982, 168-178	<input type="checkbox"/>
		ICHIYOSHI, ET AL., "A Shared-Memory Parallel Extension of KLIX and Its Garbage Collection", Proceedings of GCS '94 Workshop on Parallel Logic Programming, 1994, 113-126	<input type="checkbox"/>
		JONES AND LINS, "Garbage Collection: Algorithms for Automatic Dynamic Memory Management", 1996, 165-179, John Wiley and Sons, NY	<input type="checkbox"/>
		KARLSSON, "Resume of Martin Karlsson, Internet Document, Online!, page 1, line 22; line 27", < <a href="http://user.it.uu.se/(martink/">http://user.it.uu.se/(martink/</a> > Retrieved on 2002-10-30, May-August 1999	<input type="checkbox"/>
		MASSALIN, ET AL., "A Lock-Free Multiprocessor OS Kernel, Dept. of Computer Science", Columbia University Technical Report No. CUCS-005-91, June 19, 1991	<input type="checkbox"/>

Examiner  
Signature

Date  
Considered

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT Sheet 6 of 6**

Docket No. SMY 041.01

Applicant: Nir N. Shavit, Steven K. Heller and Christine H. Flood  
Serial No: 09/893,256  
Filed: June 27, 2001  
For: LOAD-BALANCING QUEUES EMPLOYING LIFO/FIFO WORK STEALING  
Examiner: C. Truong  
Art Unit: 2195

**OTHER PRIOR ART – NON PATENT LITERATURE AND DOCUMENTS**

Exam Inits	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the articles (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
		MOON, "Garbage Collection in a Large Lisp System", Conference Record of the 1984 ACM Symposium on LISP and Functional Programming, August 1984, 235-246, Austin, TX	<input type="checkbox"/>
		PATEL, ET AL., "A Model Completion Queue Mechanisms Using the Virtual Interface API", IEEE, 2000, 280-288	<input type="checkbox"/>
		REVESZ, "Parallel Graph-Reduction With a Shared Memory Multiprocessor System", Proceedings of the International Conference on Computer Languages, March 1990, New Orleans, LA	<input type="checkbox"/>
		RUDALICS, "Distributed Copying Garbage Collection", ACM, 1986, 364-372	<input type="checkbox"/>
		VALOIS, "Lock-Free Data Structures, Internet Document: Doctor of Philosophy/Thesis, Online!, p.27, line 13", <a href="http://www.cs.rpi.edu/pub/caloisj/thesis.ps.gz">http://www.cs.rpi.edu/pub/caloisj/thesis.ps.gz</a> , May 1995	<input type="checkbox"/>
		WASHABAUGH, ET AL., "Incremental Garbage Collection of Concurrent Objects", IEEE, 1990, 21-30	<input type="checkbox"/>
		WILSON, "Uniprocessor Garbage Collection Techniques", University of Texas, Date Unknown, Austin	<input type="checkbox"/>
		YOUN, ET AL., "A Multithreaded Architecture for the Efficient Execution of Vector Computations within a Loop using", IEEE, 1996, 343-350	<input type="checkbox"/>
		CHUANG, ET AL., "Real-Time Deques, Multihead Turing Machines, and Purely Functional Programming", ACM-FPCA '93, June 1993, 289-298, Copenhagen, Denmark	<input type="checkbox"/>
		ENDO, ET AL., "A Scalable Mark-Sweep Garbage Collector on Large-Scale Shared-Memory Machines", Dept. of Information Science, Uni. of Tokyo, Date Unknown, Japan	<input type="checkbox"/>
		YAMAMOTO, ET AL., "Comparing Reference Counting and Global Mark-and-Sweep on Parallel Computers", Dept. of Info. Science. University of Tokyo, Japan, Date Unknown, Japan	<input type="checkbox"/>

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--